

CLAIMS

1. A method of controlling a radio access network, disposed between user equipment and an exchange network, which comprises user plane control means for controlling a transfer of user data related to said user equipment, and control plane control means for controlling a transfer of a control signal for signalling control, said user plane control means being physically separated from said control plane control means, said method comprising:

5 a first step at which said user plane control means reports its own status information to said control plane control means to which said user plane control means belongs; and

10 a second step at which said control plane control means stores the status information reported from said user plane control means in storing means for management of each of user plane control means subordinate thereto.

2. The method of controlling a radio access network according to claim 1, wherein said status information of said user plane control means includes traffic information within said user plane control means.

3. The method of controlling a radio access network according to claim 1, wherein said status information of said user plane control means includes information on a bandwidth of a channel directed to the outside from said user plane control means.

4. The method of controlling a radio access network according to claim 1, wherein said status information of said user plane control means includes

alarm information detected in said user plane control means.

5. The method of controlling a radio access network according to claim 1, wherein at said first step, said user plane control means reports the status information to said control plane control means each time said user plane control means receives a request for transmitting the status information from
5 said control plane control means.
6. The method of controlling a radio access network according to claim 1, wherein at said first step, said user plane control means reports the status information to said control plane control means at a fixed period.
7. The method of controlling a radio access network according to claim 1, wherein at said first step, said user plane control means reports the status information to said control plane control means when a change is found in the status information of said user plane control means.
8. The method of controlling a radio access network according to claim 1, further comprising:
 - a third step at which said control plane control means is operable when user equipment located in an area of a first radio base station having a
5 radio link established between said first radio base station and a first user plane control means subordinate to said control plane control means moves to an area of a second radio base station, said second radio base station belonging to said first user plane control means, to read the status information of said first user plane control means from said storing means; and
 - 10 a fourth step at which said control plane control means determines

based on the status information of said first user plane control means, read from said storing means, whether or not a radio link can be added at said first user plane control means.

9. The method of controlling a radio access network according to claim 8, further comprising a fifth step at which said control plane control means instructs said first user plane control means to add a radio link between said first user plane control means and said second radio base station when said control plane control means determines that a radio link can be added at said first user plane control means.
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10. The method of controlling a radio access network according to claim 1, further comprising:
 - a third step at which said control plane control means is operable when user equipment located in an area of a first radio base station having a radio link established between said first radio base station and a first user plane control means subordinate to said control plane control means moves to an area of a second radio base station, said second radio base station belonging to second user plane control means subordinate to said control plane control means, to read the status information of said second user plane control means from said storing means; and
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 - 10 - a fourth step at which said control plane control means determines based on the status information of said second user plane control means, read from said storing means, whether or not a radio link can be added at said second user plane control means.
11. The method of controlling a radio access network according to claim

10, further comprising a fifth step at which said control plane control means instructs said second user plane control means through said first user plane control means to add a radio link between said second user plane control means and said second radio base station when said control plane control means determines that a radio link can be added at said second user plane control means.

12. The method of controlling a radio access network according to claim 1, further comprising:

a third step at which said control plane control means is operable when user equipment located in an area of a first radio base station having a radio link established between said first radio base station and a first user plane control means subordinate to said control plane control means moves to an area of a second radio base station, said second radio base station belonging to second user plane control means subordinate to another control plane control means, to refer to this other control plane control means for status information of said second user plane control means; and

a fourth step at which said control plane control means determines based on the status information of said second user plane control means that is received from this other control plane control means whether or not a radio link can be added at said second user plane control means.

13. The method of controlling a radio access network according to claim 12, further comprising a fifth step at which said control plane control means instructs said second user plane control means through said first user plane control means to add a radio link between said second user plane control means and said second radio base station when said control plane control

means determines that a radio link can be added at said second user plane control means.

14. A radio access network disposed between user equipment and an exchange network, and comprising user plane control means for controlling a transfer of user data related to said user equipment, and control plane control means for controlling a transfer of a control signal for signalling control, said

5 user plane control means being physically separated from said control plane control means, wherein:

said user plane control means reports its own status information to said control plane control means to which said user plane control means belongs; and

10 said control plane control means stores the status information reported from said user plane control means in storing means for management of each of user plane control means subordinate thereto.

15. The radio access network according to claim 14, wherein said user plane control means reports the status information including traffic information within said user plane control means to said control plane control means.

16. The radio access network according to claim 14, wherein said user plane control means reports the status information, including information on a bandwidth of a channel directed from said user plane control means to the outside, to said control plane control means.

17. The radio access network according to claim 14, wherein said user plane control means reports the status information including alarming

information detected in said user plane control means to said control plane control means.

18. The radio access network according to claim 14, wherein said user plane control means reports the status information to said control plane control means each time said user plane control means receives a request for transmitting the status information from said control plane control means.

19. The radio access network according to claim 14, wherein said user plane control means reports the status information to said control plane control means at a fixed period.

20. The radio access network according to claim 14, wherein said user plane control means reports the status information to said control plane control means when a change is found in the status information of said user plane control means.

21. The radio access network according to claim 14, wherein said control plane control means is operable when user equipment located in an area of a first radio base station having a radio link established between said first radio base station and a first user plane control means subordinate to said control plane control means moves to an area of a second radio base station, said second radio base station belonging to said first user plane control means, to read the status information of said first user plane control means from said storing means, and determines based on the read status information of said first user plane control means whether or not a radio link can be added at said first user plane control means.

22. The radio access network according to claim 21, wherein said control plane control means instructs said first user plane control means to add a radio link between said first user plane control means and said second radio base station when said control plane control means determines that a radio link can be added at said first user plane control means.
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23. The radio access network according to claim 14, wherein said control plane control means is operable when user equipment located in an area of a first radio base station having a radio link established between said first radio base station and a first user plane control means subordinate to said control plane control means moves to an area of a second radio base station, said second radio base station belonging to second user plane control means subordinate to said control plane control means, to read the status information of said second user plane control means from said storing means, and determines based on the read status information of said second user plane 10 control means whether or not a radio link can be added at said second user plane control means.
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24. The radio access network according to claim 23, wherein said control plane control means instructs said second user plane control means through said first user plane control means to add a radio link between said second user plane control means and said second radio base station when said control plane control means determines that a radio link can be added at said second user plane control means.
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25. The radio access network according to claim 14, wherein said control plane control means is operable when user equipment located in an

- area of a first radio base station having a radio link established between said first radio base station and a first user plane control means subordinate to said
- 5 control plane control means moves to an area of a second radio base station, said second radio base station belonging to second user plane control means subordinate to another control plane control means, to refer to this other control plane control means for status information of said second user plane control means, and determines based on the status information of said second
- 10 user plane control means that is received from this other control plane control means whether or not a radio link can be added at said second user plane control means.
26. The radio access network according to claim 25, wherein said control plane control means instructs said second user plane control means through said first user plane control means to add a radio link between said second user plane control means and said second radio base station when
- 5 said control plane control means determines that a radio link can be added at said second user plane control means.